FINAL ENVIRONMENTAL ASSESSMENT

Ready Freddy, Inc.

Land Application Site

Kalispell, Montana

Solid Waste Section

PO Box 200901

Helena, MT 59620-0901

June 27, 2023

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TABLES

FIGURES

ACRONYMS

RFI – Ready Freddy, Inc.

AOI – Area of Interest

ARM – Administrative Rules of Montana

AAR– Annual Application Rate

Draft EA – Draft version of an environmental assessment before public comment

Final EA – Final version of an environmental assessment after public comment

DEQ – Montana Department of Environmental Quality

DNRC – Montana Department of Natural Resources and Conservation

EA – Environmental Assessment

EIS – Environmental Impact Statement

GWIC – Ground Water Information Center

MBMG – Montana Bureau of Mines and Geology

MCA – Montana Code Annotated

MEPA – Montana Environmental Policy Act

MNHP – Montana Natural Heritage Program

O&M – Operation and Maintenance

Proposed Action – Approving a new septage land application site.

Septic Rules– ARM Title 17, chapter 50, subchapter 8, "Cesspool, Septic Tank, and Privy Cleaners"

SDLA – "Septic Disposal Licensure Act", Title 75, chapter 10, part 12, MCA

Site – Approximately 50 acres of Norman Wendt property located at 940 Clark Drive, Flathead County, Montana.

SWL – Static Water Level

USFWS – United States Fish and Wildlife Service

USGS – United States Geological Survey

1. NEED FOR PROPOSED ACTION

1.1 SUMMARY

This final environmental assessment (Final EA) was prepared for the septage land application site proposed by Ready Freddy, Inc. (RFI), in accordance with the Montana Environmental Policy Act (MEPA). On February 15, 2023, the Department of Environmental Quality (DEQ) received an application from RFI for the licensing of a new septage land application site (Proposed Action). RFI proposes the land application of septage on approximately 50 acres owned by Norman Wendt, located at 940 Clark Drive in Flathead County, Montana (Site, **Figure 1**).

1.2 BACKGROUND

RFI holds a license from DEQ to pump, and land apply septage in Montana. RFI is currently approved to land apply septage on one land application site in Flathead County. RFI is proposing to add this Site to their license.

This application was signature-certified by Flathead County prior to DEQ's environmental review. According to the Administrative Rules of Montana (ARM), DEQ cannot review a new site disposal application unless it has been previously certified by the local county health officer or designated representative.

Septage is the liquid and solid material removed from a septic tank, cesspool, portable toilet, or similar treatment works that receives only domestic waste and wastewater collected from household or commercial operations. Naturally occurring bacteria within wastewater reside in the typical septic tank, digesting organic matter over time. Pre-treated liquid (effluent) typically exits the septic tank through a perforated pipe and enters its leach field, leaving floating materials and solids in the tank for further digestion. Septic tanks are commonly pumped every two to five years depending on tank capacity and number of users. Septage is either delivered to a wastewater treatment plant for secondary treatment, land applied as proposed in this document, or dewatered and landfilled at a licensed Class II municipal solid waste landfill facility. Septage is different than sewage, which is wastewater and excrement that has not been treated and is conveyed in sewer systems. Septage is what Montana's septic tank pumpers land apply. Septage does not include prohibited material (e.g., garbage or tampons) removed from a septic tank or similar treatment works by pumping.

RFI's application was submitted to DEQ under the laws and rules for licensing septic pumpers, demonstrating their intent to meet the minimum requirements for the pumping and land application of septage. A licensed land application program recognizes and employs practices that maximize benefits.

1.3 PURPOSE AND NEED

DEQ's purpose and need in conducting the environmental review is to act upon RLF's application by evaluating potential impacts of the Proposed Action. If DEQ approves the

application, DEQ would add the Site to their existing license. DEQ's decision to approve or deny the application depends upon the consistency of the application with the following:

1. Septage Disposal Licensure Act (SDLA).
2. Administrative Rules of Montana (ARM) Title 17, Chapter 50, subchapter 8, "Cesspool, Septic Tank, and Privy Cleaners" (Septic Rules).
3. the Clean Air Act of Montana; and
4. Montana Water Quality Act.

RFI proposes to comply with all the rules noted above.

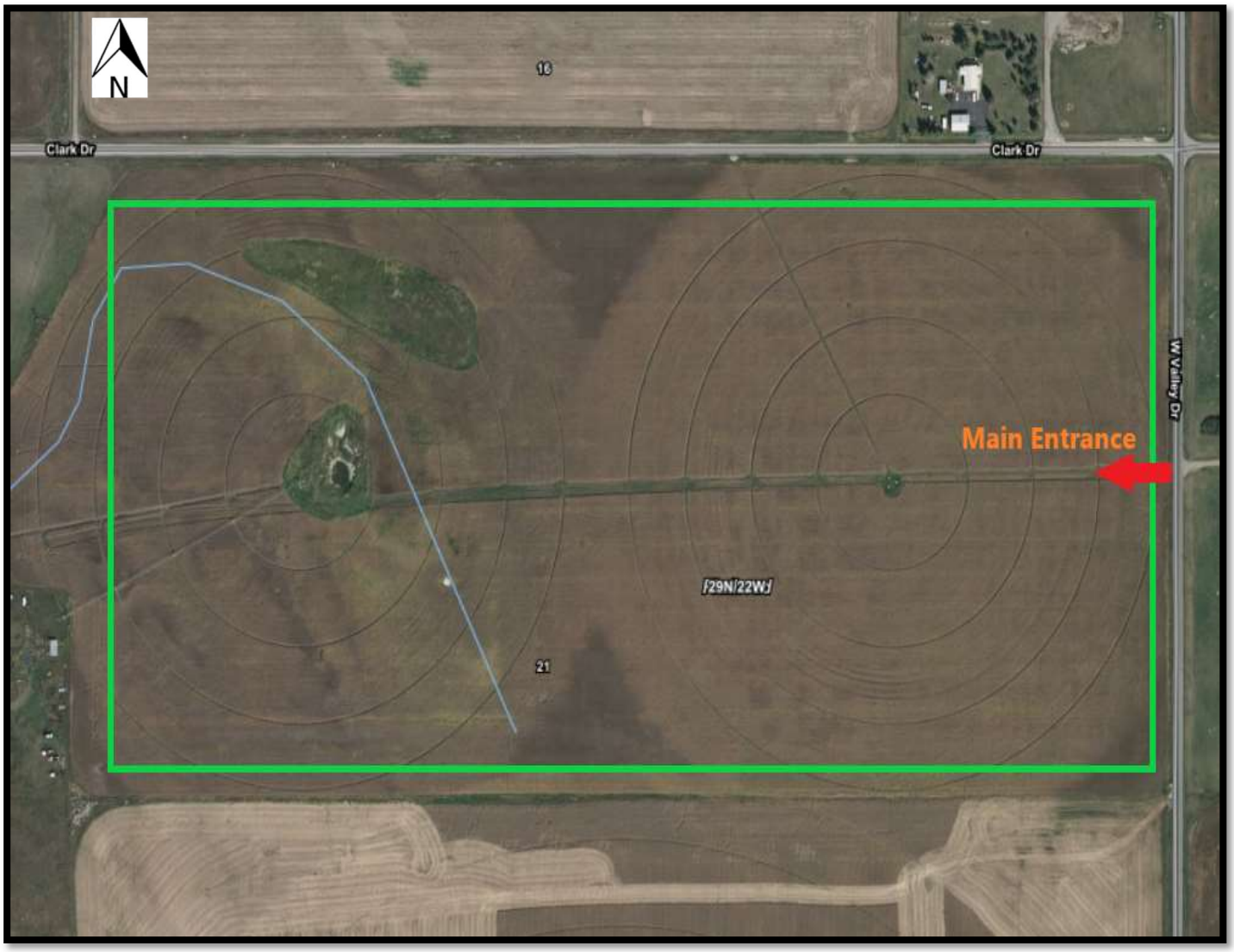
1.4 LOCATION DESCRIPTION AND ANALYSIS AREA

The proposed Site is located on property owned by Norman Wendt in Section 21, Township 29 North, Range 22 West in Flathead County, Montana.

The Site would be divided into two 25-acre parcels for rotation and production of wheat and canola. It is proposed that the 25-acre parcel located at the south side of the field would be used for land application disposal in 2023 and the other 25-acre parcel on the north side of the field would be used for land application in 2024. The parcels would be rotated annually.

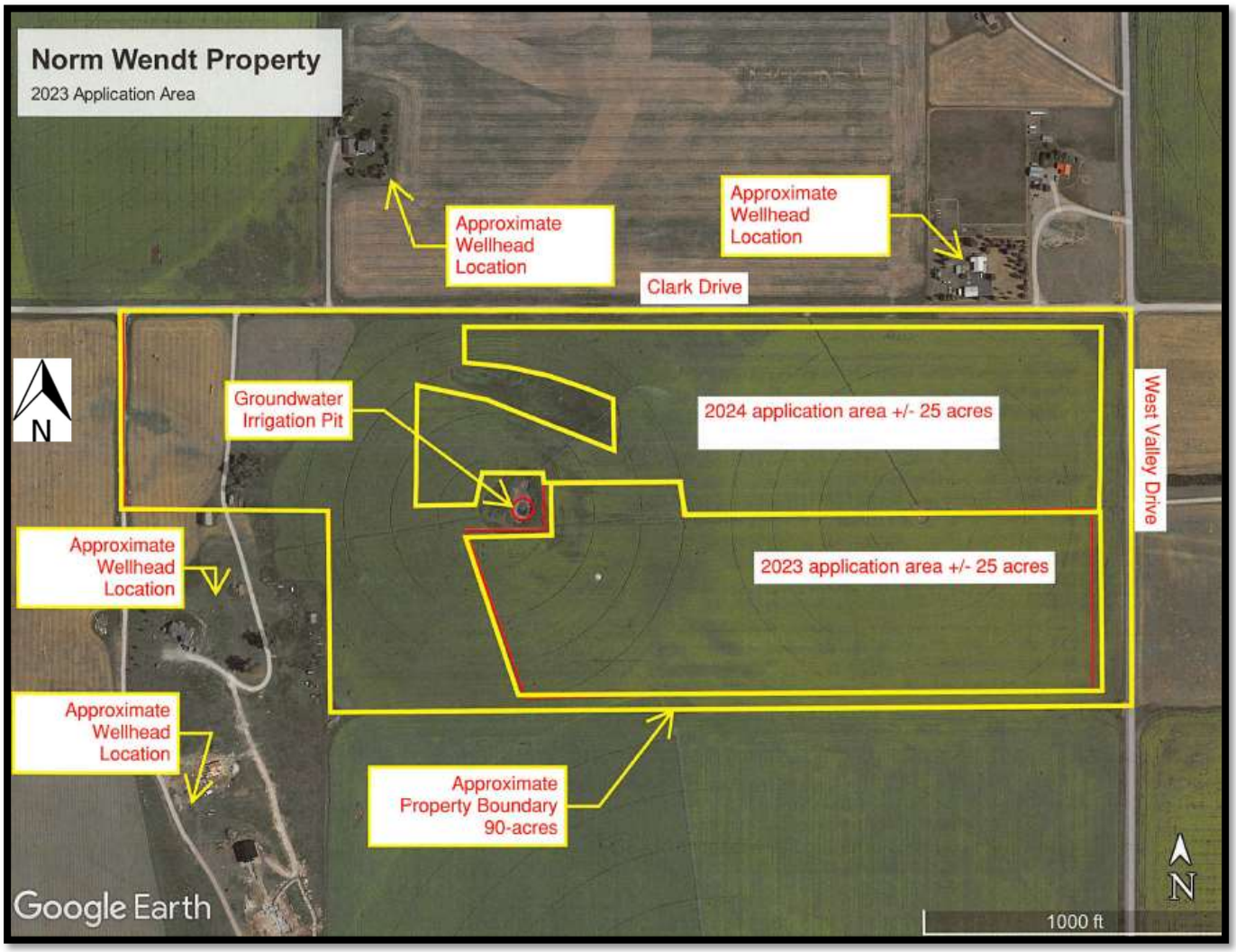
A private drive would be used to access the Site via the main entrance located on the East end of the field off West Valley Drive (**Figure 1**). The area being analyzed as part of this environmental review includes the immediate project area (**Figure 2**) and neighboring lands surrounding the Site as reasonably appropriate for the impacts being considered. The analysis area depends on the resource under evaluation, as noted in the subparts of *Section 3*.

Figure 1: Proposed Site
(Norman Wendt property outlined in green, Main Entrance labeled in orange, and marked with a red arrow)



*Source: ArcGIS (**NOT TO SCALE**)*

Figure 2: Proposed Land Application Site
(Approximate Site outlined in yellow, and the two separate parcels labeled 2023 Application Area & 2024 application area)



*Source: Google Earth (**NOT TO SCALE**)*

1.5 COMPLIANCE WITH MEPA

Under MEPA, DEQ is required to prepare an environmental review for state actions that may have an impact on the human environment. This Final EA analyzes the Proposed Action and reasonable alternatives to the Proposed Action and discloses potential impacts that may result from such actions. As explained below, DEQ has determined an EA is the appropriate level of review based on consideration of the criteria set forth in ARM 17.4.608.

1.6 PUBLIC INVOLVEMENT

DEQ released this Draft EA to present its initial findings described in *Section 4.* ***A 10-day public comment period*** commenced on the release of the document and ***ended on June 16, 2023.*** A notice of availability for the Draft EA was sent to adjacent landowners and other interested parties. A press release was sent to area media outlets and posted to the State Newsroom the day the Draft EA was published. This Final EA may be viewed at: https://deq.mt.gov/public/publicnotice.

2. DESCRIPTION OF ALTERNATIVES

This Section describes the Proposed Action and No Action alternatives. MEPA requires the evaluation of reasonable alternatives to the Proposed Action. Reasonable alternatives are achievable under current technology and are economically feasible, as determined by the economic viability of similar projects with similar goals, conditions, and physical locations. According to Section 75-1-220(1), MCA, reasonable alternatives are determined without regard to the economic strength of the applicant but may not include an alternative facility or an alternative to the proposed project itself.

According to ARM 17.4.609(3)(f), an environmental assessment (EA) must include alternatives whenever reasonable and prudent. DEQ has not considered any other alternatives to the Proposed Action, beyond the no action alternative, because RFI's application and proposed operation and maintenance comply with the applicable laws and rules pertaining to land application of septage in Montana.

2.1 NO ACTION ALTERNATIVE

Under the No Action Alternative, the Site would not be approved by DEQ. Therefore, the Site could not be used by RFI, and disposal of septage would have to occur at other licensed treatment works or land application sites.

2.2 PROPOSED ACTION

RFI is proposing the land application of septage on the Site, described in *Section 1.1*.

2.2.1 LAND APPLICATION SITE OPERATIONS

The operational and setback requirements for land application of septage at this Site are provided in **Tables 1 and 2**:

Table 1: Land Application Operational Requirements

ARM Reference	Specific Restrictions
17.50.809(10)	All non-putrescible litter must be removed from the land application site within 6 hours of application.
17.50.809(12)	Pumpings may not be applied at a rate greater than the crop's annual application rate (AAR) for nitrogen.
17.50.810(1)	Pumpings may not be applied to flooded, frozen, or snow-covered ground if the pumpings may enter state waters.

17.50.811(3)	Pumpings may be applied only if the person first performs one of the following vector attraction and pathogen reduction methods: • injection below the land surface so no significant amount remains on the land surface within one-hour of injection; • incorporation into the soil surface's plow layer within 6 hours of application; • addition of alkali material so that the pH is raised to and remains at 12 or higher for a period of at least 30 minutes; or, • management as required by 17.50.810 when the ground is frozen

Table 2: Land Application Site Setback Requirements

ARM Reference	Specific Restrictions
17.50.809(1)	Pumpings may not be applied to land within ***500 feet of any occupied or inhabitable building***.
17.50.809(2)	Pumpings may not be applied to land within ***150 feet of any state surface water, including ephemeral or intermittent drainages and wetlands***.
17.50.809(3)	Pumpings may not be applied to land within ***100 feet of any state, federal, county, or city-maintained highway or road***.
17.50.809(4)	Pumpings may not be applied to land within ***100 feet of a drinking water supply source***.
17.50.809(6)	Pumpings may not be applied to land with ***slopes greater than 6%***.
17.50.809(8)	Pumpings may not be applied to land where seasonally high groundwater is 6 feet or less below ground surface.

Land application would be limited to areas approved by DEQ. The Site would not be used until boundaries have been marked and approved by DEQ or the local county sanitarian.

RFI would be required to log the type and amount of pumpings land applied annually as well as the dates applied. Disposal logs would be submitted to DEQ semiannually. DEQ would verify the Site's annual application rate (AAR) and may periodically monitor the soils for adherence to the proposed maximum AAR.

2.2.2 AMOUNT AND EXTENT OF SEPTAGE APPLICATION

Land application must not exceed the AAR (gallons per acre per year) based on:

1. The nitrogen content of the waste applied at the Site (EPA, 1993); and
2. The crop nitrogen yields for the crop or other vegetation at the Site.

The AAR for portable toilet and vault type waste is calculated as follows:

$$\textbf{AAR} = \frac{\text{minimum crop nitrogen requirement (lbs./acre/year)}}{0.0052\ \text{(lbs./gallon)}}$$

50 acres of the site would be used to grow wheat and canola. The AAR is calculated for wheat as wheat has higher nitrogen requirements. The nitrogen requirement for wheat is 165 pounds per acre per year based on a conservative yield expectation at the Site (Fertilizer Guidelines for Montana Crops, 2005; EPA, 1993). For the wheat field crop, the resulting AAR for septage is 31,731 gallons per acre per year, which is equal to approximately 1.16 inches of liquid applied annually per acre. For comparison, the average annual precipitation in the Kalispell area is 17 inches per year.

Land application of septage at the AAR would be alternated annually between separate parcels to allow for agronomic crop uptake of the applied nitrogen. Plants can utilize nitrogen available from the septage if the volume of septage applied each year does not exceed the AAR. When land application is rotated, one parcel is used every year. For example, if 100 acres are proposed for land application, 50 acres would be used one year and the other 50 acres would be used similarly the next year. In this case, RFI would rotate the Site's 25-acre parcels used each year. The residual soil nutrient levels at each parcel would vary over time. DEQ may periodically monitor the soil for nutrient content to determine compliance with the AAR.

Based on these calculations, the Norman Wendt property could treat the proposed volume of waste without exceeding the Site AAR.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES BY RESOURCE

3.1 LOCATION DESCRIPTION AND ANALYSIS AREA

The location of the Site is described in *Section 1.1* of this Draft EA. The analysis area includes land and resources in and around the Site. The analysis area is described in each subsequent section depending on the resource.

3.2 IMPACTS

Table 3 shows a summary of the impacts of the No Action Alternative and the Proposed Action.

Direct impacts are those that occur at the same time and place as the action that triggers the effect.

Secondary impacts are those that occur at a different location or later time than the action that triggers the effect.

Cumulative impacts are the collective impacts on the human environment when a specific action is considered in conjunction with other past, present, and future actions by location and type. Cumulative impact analysis under MEPA requires an agency to consider all past and present state and non-state actions. Related future actions must also be considered when these actions are under concurrent consideration by any state agency through pre-impact statement studies, separate impact statement evaluation, or permit processing procedures.

Cumulative impact analyses help to determine whether an action, combined with other activities, would result in significant impacts.

Under the No Action Alternative, there would be no impacts for any resource.

Table 3: Impacts

Resource	Alternative 1 – No Action	Alternative 2 – Proposed Action
Wildlife and Habitats	No impact.	Direct and Secondary Impact: Minor. Wildlife tends to avoid land application sites due to human scent and activities and would relocate. (See *Section 3.2.1*) No cumulative impacts.
Soils and Vegetation	No impact.	Direct and Secondary Impact: Minor beneficial impact. The quality of soil and crop yields would be enhanced both immediately and in the future because of the Proposed Action. (See *Section 3.2.2*) No cumulative impacts.
Geology	No impact	No direct, secondary, or cumulative impacts. (See *Section 3.2.3*)
Hydrology and Hydrogeology	No impact.	No direct, secondary, or cumulative impacts. (See *Section 3.2.4*)
Aesthetics and Noise	No impact.	Direct and Secondary Impact: Minor impact. Land application activities resemble agricultural and commercial activities occurring in the surrounding area. Odor would largely be controlled by daily incorporation into the soil via harrowing. (See *Section 3.2.5*) No cumulative impacts.
Human Health & Safety	No impact.	No direct, secondary, or cumulative impacts. (See *Section 3.2.6*)

Industrial, Commercial, and Agricultural Activities	No impact.	No direct, secondary, or cumulative impacts. (See *Section 3.2.7*)
Cultural Uniqueness and Diversity	No impact.	No direct, secondary, or cumulative impacts. (See *Section 3.2.8*)
Demand for Government Services	No impact.	Direct and Secondary Impact: Minor. Flathead County sanitarian and DEQ would conduct periodic inspections of the Site. (See *Section 3.2.9*) No cumulative impacts.
Socioeconomics	No impact.	No direct, Secondary, or cumulative Impacts. *(See Section 3.2.10)*
Property Values	No impact	Direct and Secondary Impact: Minor. There is a lack of literature or studies on potential impacts from land application sites on surrounding real property values in Montana. (See 3.2.11)
Traffic	No impact.	Direct and Secondary Impact: Minor. RFI would access the Site via a private drive off West Valley Drive, which currently supports traffic to homes in the area. (See *Section 3.2.12*) No cumulative impacts.

3.2.1 WILDLIFE AND HABITATS

Impacts to wildlife and habitats from the Proposed Action would be minor.

Wildlife tends to avoid areas where human scents and activities are present including, but not limited to, septage land application sites. Montana Fish, Wildlife & Parks (FWP) manages the overall wildlife populations of the region. Species of fish, amphibians, and aquatic invertebrates and plants are not included on the following lists because land application activities would not impact nearby perennial waters based on STP requirements for minimum setbacks, maximum slopes, and elimination of runoff (see *Sections 2.2.1* and *3.2.4.1*).

The applicant does not plan to expand the Site beyond the boundaries described in the application. Therefore, no habitats outside the land application areas would be impacted because human activities would be constrained to the Site's boundaries.

Odors are expected to be limited to the area immediately surrounding the point of land application (see *Section 3.2.5*). The Site is in a rural portion of Flathead County on land used for agricultural production. Adjacent land use in the vicinity of the Site includes a mix of row crop agricultural production, grazing, and grasslands. Beyond the immediate vicinity of the Site.

3.2.1.1 THREATENED AND ENDANGERED SPECIES

The U.S. Fish & Wildlife Service's (USFWS) online databases were used to identify plant and animal species at the Site and the associated analysis area (USFWS, 2023). The USFWS species and status listings for Flathead County, Montana, are shown in **Table 4**:

Table 4: Federally Established Species List

Scientific Name	Common Name	Status
Haliaeetus leucocephalus	Bald eagle	Recovery
Aquila chrysaetos	Golden eagle	Species of concern
Pinus albicaulis	Whitebark pine	Threatened
Charadrius montanus	Mountain plover	Resolved taxon
Lynx canadensis	Canada lynx	Threatened
Centrocercus urophasianus	Greater sage grouse	Resolved taxon
Anthus spragueii	Sprague's pipit	Resolved taxon
Gulo luscus	North American wolverine	Proposed Threatened
Ursus arctos horribilis	Grizzly bear	Threatened
Danaus plexippus	Monarch butterfly	Candidate

The Site does not provide the habitat necessary to independently sustain the species listed above. Nearby grasslands, riparian areas, and protected lands provide adequate habitat for any species forced to relocate due to the Proposed Action. Habitat for the whitebark pine exists outside of the immediate vicinity of the Site at points of higher elevation throughout Flathead County. The greater sage grouse is addressed separately in *Section 3.2.1.2*. The Proposed Action may deter transient wildlife from passing through the active land application area but impacts to these species are anticipated to be minor.

3.2.1.2 SPECIES OF CONCERN

No impacts to species of concern are anticipated to result from the Proposed Action.

Designation as a species of concern is not a statutory or regulatory classification. Instead, these designations provide a basis for resource managers and regulators to make proactive decisions regarding species conservation.

The Montana Natural Heritage Program's (MNHP) online databases were accessed for listed species (MNHP, 2022). The MNHP species and status listing for Township 29 North, Range 22 West is shown in **Table 5**.

Table 5: Montana Recognized Animal Species List

Scientific Name	Common Name	Status	GRank/SRank
Ursus arctos	Grizzly bear	Species of concern	G4/S2
Centrocercus urophasianus	Greater sage grouse	Species of concern	G3/S2
Gulo gulo	Wolverine	Species of concern	G4/S3

The MNHP uses a standardized ranking system developed by The Nature Conservancy and maintained by NatureServe. Each species is assigned two ranks; one represents its global status (GRank), and one represents its status in the state (SRank). The scale is 1-5; 5 means common, widespread, and abundant; 1 means at high risk. Species with a GRank 5 are not included in **Table 5**.

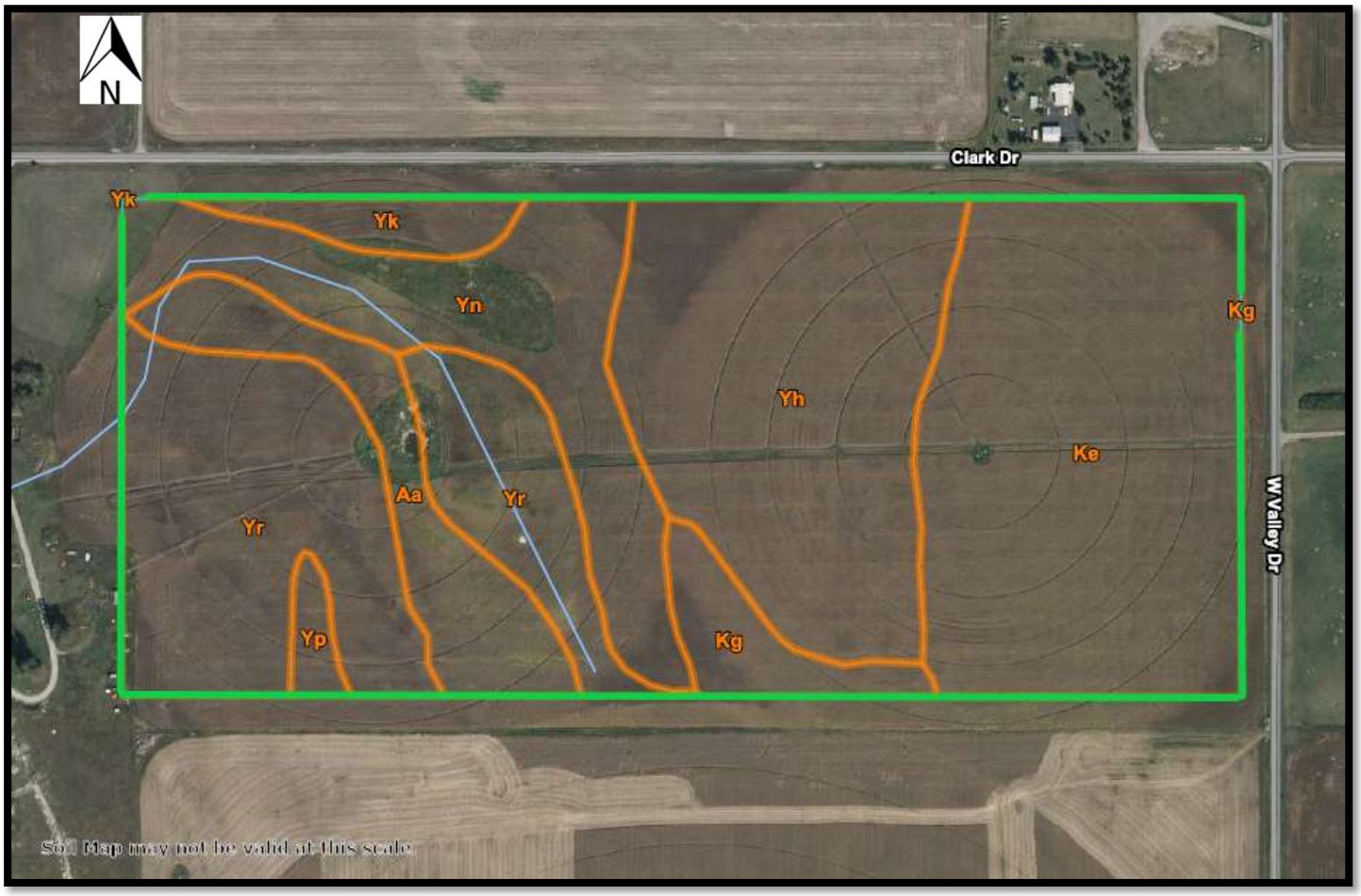
The Site is not located within any recognized level of sage grouse habitat as designated by the Department of Natural Resources and Conservation (DNRC).

3.2.2 SOILS AND VEGETATION

The impact of the Proposed Action on soil and vegetation would be minor.

The US Department of Agriculture (USDA) Natural Resources Conservation Service's (NRCS) National Cooperative Soil Survey databases were accessed for information about the shallow subsurface soils at the Site and surrounding areas (**Figure 3** and **Table 6**).

Figure 3: Soil Resource Map
(*Soil unit with delineation in orange, approximate Site without setbacks outline of Section 21 in blue*)



*Source: USDA, Natural Resources Conservation Service (NRCS), 2023 (**NOT TO SCALE**)*

Table 6: Soils Survey

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Aa	Alluvial land, poorly drained	5.1	7.4%
Ke	Kalispell loam, 0 to 3 percent slopes	19.0	27.7%
Kg	Kalispell loam, 3 to 7 percent slopes	2.3	3.3%
Yh	Yeoman gravelly loam, moderately deep over sand, 0 to 3 percent slopes	15.3	22.3%
Yk	Yeoman gravelly loam, moderately deep over sand, 3 to 7 percent slopes	1.6	2.3%
Yn	Yeoman gravelly loam, moderately deep over sand, 12 to 20 percent slopes	9.5	13.9%
Yp	Yeoman loam, moderately deep over sand, 0 to 3 percent slopes	0.7	1.0%
Yr	Yeoman loam, moderately deep over sand, 3 to 7 percent slopes	15.2	22.1%
Totals for Area of Interest		**68.6**	**100.0%**

Soil types where land application would occur primarily consist of Kalispell loams and Yeoman gravelly loams, moderately deep over sand. The ratings shown in **Table 6** are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the septage is applied, and the method by which the septage is applied.

The "Acres in AOI" shown in Table 6 represents the amount of acreage with each specific soil characteristic within the area of interest, whereas the "Percentage of AOI" represents the percentage of each specific soil characteristic within the area of interest.

Weed control is managed by Flathead County. DEQ has not experienced any active or closed land application sites where weeds were abundant beyond what would be considered "typical" for sites where row crop agriculture or grazing is present.

Septage contains nutrients that can reduce the reliance of the farmer or land manager on chemical fertilizers to improve soils. The Proposed Action would add moisture, organic matter, and nutrients to the topsoil, improving the Site's soil tilth and grass vigor. The quantity and quality of soils and vegetation at the Site would be enhanced by the Proposed Action.

DEQ analyzed how the land application of septage would impact the Site's environment given the weather of the region. The weather in the area is typical of Northwestern Montana, classified as warm summer continental climate. The average pan evaporation rate is listed as 27.97 inches per year at the nearest monitoring station. The hot months of June, July, and August coincide with the average Montana

septic tank pumper's busy season. Dry soils, vegetation, and crops in this semi-arid zone would benefit from the added moisture.

3.2.3 GEOLOGY

No geological impacts are anticipated to result from the Proposed Action.

Periodic tilling of the surface topsoil to incorporate septage would not significantly affect the thickness or character of deeper glacial till found on the Site. Septage land application operations would not involve excavation.

3.2.4 HYDROLOGY AND HYDROGEOLOGY

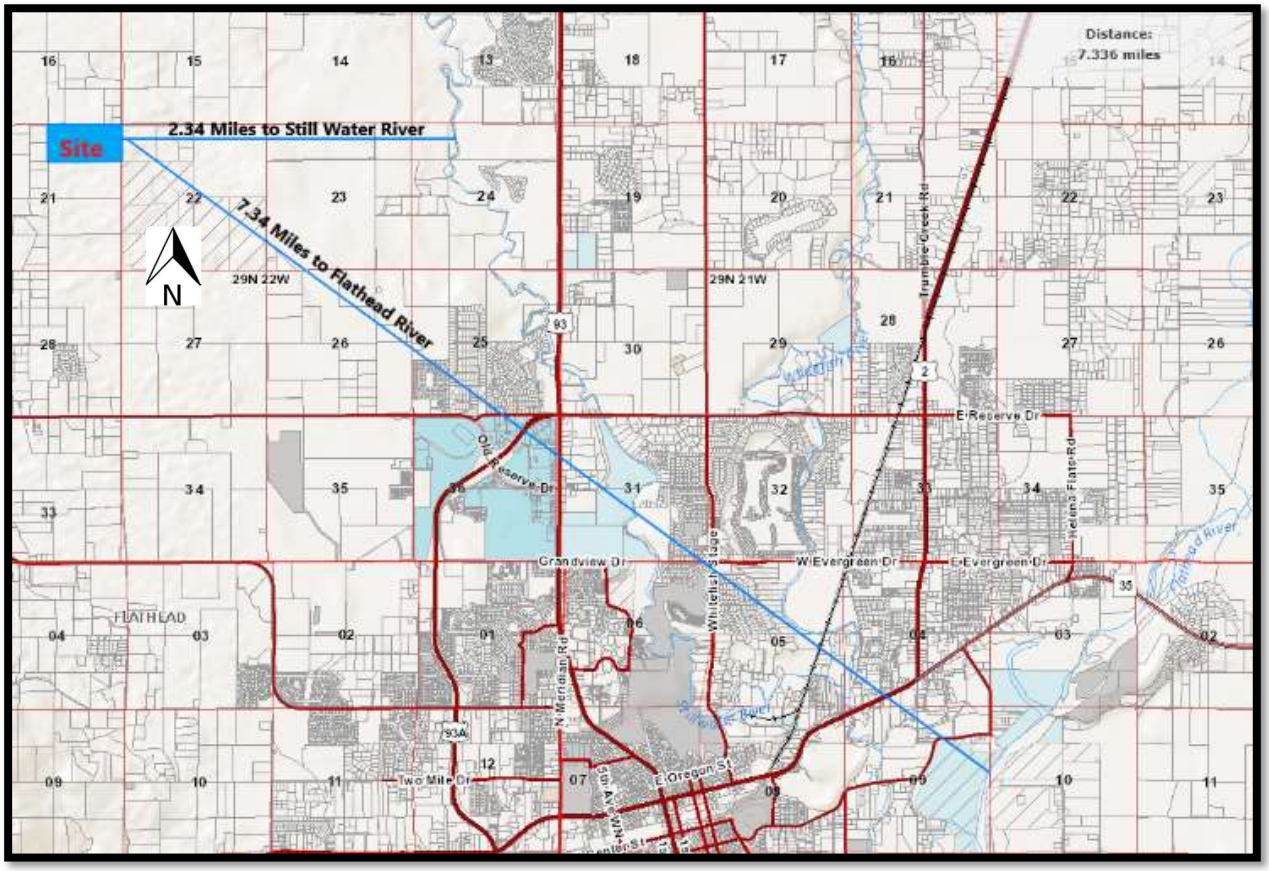
The analysis area for hydrology and hydrogeology is the Site and surrounding area (beyond a mile). Some discussion of regional geology, based upon published reports, is also provided. The analysis methods include reviewing wetland and jurisdictional waters information, onsite drilling reports, publications of the Montana Bureau of Mines and Geology (MBMG), and online maps (Esri/ArcGIS, 2023).

3.2.4.1 SURFACE WATER

No impacts to surface waters are expected due to the Proposed Action.

The Site is located entirely within the Beaver Creek-Stillwater River watershed, hydrologic unit code (HUC) 170102100403. The mainstem Stillwater River flows approximately 2.3 miles away from the Site (**Figure 4**). The Stillwater River meets the Whitefish River, then outlets to the Flathead River, approximately 7.3 miles southeast of the Site. Several small ponds are also located adjacent to the Site (**Figure 4**).

Figure 4: Surface Water
(*Approximate Site labeled in red, distances to Stillwater River & Flathead River highlighted in blue*)



*Source: https://svc.mt.gov/msl/mtcadastral (**NOT TO SCALE**)*

Periodic inspections by DEQ for compliance with setbacks near the Site borders, slope restrictions not to exceed **6%**, and runoff patterns would ensure no septage enters nearby ephemeral or intermittent drainages, the Stillwater River, or nearby ponds.

Figure 5: Surface Water
(Approximate Site in outlined in orange, distances to nearest surface water in blue, required setback from groundwater irrigation pit circled in red)

*Source: Google Maps (**NOT TO SCALE**)*

3.2.4.2 GROUNDWATER

No impacts to groundwater or groundwater wells are expected due to the Proposed Action.

The Montana Bureau of Mines and Geology's Ground Water Information Center (GWIC) is DEQ's reference for well data in Montana. All wells located within one mile of the Site and documented by GWIC when this EA was written were considered. Any well not documented in GWIC is not included in this EA, but if the project is approved and wells are later proven to be within setbacks, the Site's boundaries would be adjusted to maintain the setbacks.

The Site lies within the western third of the greater Flathead Valley in northwestern Montana.

Two primary aquifers are recognized in the study area: the shallow alluvial aquifer and the deep confined aquifer (MBMG, 2001 and 2004). The shallow alluvial aquifer is composed of unconsolidated fluvial sediments (sands and gravels) deposited along the floodplain of the Flathead, Whitefish, and Stillwater Rivers. The aquifer thickness ranges from 20 to 100 feet. Low permeability glacial till and lakebed deposits of various thicknesses separate the shallow aquifer from the deeper confined aquifer. Well logs from nearby wells indicate the low permeability deposits are laterally continuous in the area and separate surface water and shallow groundwater from the deep aquifer.

The deep confined aquifer consists of a series of interbedded sand and gravel layers with fine-grained interbeds. These deposits probably represent paleo-channels within the floodplain of the ancestral Flathead and Stillwater Rivers. The depth to the upper contact of the deep aquifer varies with the thickness of the overlying confining layer. Well logs from nearby wells show a thick glacial till unit variably comprised of clayey sands to silty gravels corresponding to the confining unit overlying the deep aquifer. This glacial till unit is overlain by glacial outwash deposits forming the shallow water table aquifer. The shallow unconfined aquifer is often referred to as the Evergreen Aquifer.

Groundwater flow directions in the deep aquifer are generally from north to south in the center of the valley. Near the edges of the valley, groundwater flows toward the center of the valley, then turns south to roughly parallel the flow direction in area rivers. In the Site vicinity, groundwater flows from north to south-southeast mimicking the flow direction of the Stillwater River.

There are 20 groundwater production wells located within a 1-mile radius of the Site (**Figure 6**). The static depth to groundwater in GWIC ID #242792 well (located on-Site) is 23 feet below ground surface, greater than the six-foot minimum required by ARM 17.50.809(8).

Inspections and possible monitoring by DEQ would validate compliance with requirements for land application of septage at the AAR for the crops planted on the Site. This practice would be followed at the Site to ensure the absence of vertical percolation of septage below the soil treatment zone.

Figure 6: Location of Nearby Groundwater Production Wells
(GWIC wells in blue circles, approximate Site in orange, flow direction arrow in blue, 1-mile radius yellow shaded circle around each parcel)

*Source: Esri/ArcGIS and GWIC/MBMG (**NOT TO SCALE**)*

3.2.5 AESTHETICS AND NOISE

Minor impacts to aesthetics and noise are expected because of the Proposed Action. The analysis area is the Site and the surrounding area within one mile of the Site.

A private drive would be used to access the Site via the main entrance located on the East end of the field off West Valley Drive. The Site is not located on a prominent topographical feature. No other development is anticipated at the Site. Approximately 35 homes lie within one mile of the Site. The closest homes lie just

south of Clark Road on the west side of the parcel (**Figure 5**). Setbacks would be met accordingly (500 feet from any occupied or inhabitable building).

DEQ and/or the local county sanitarian would respond to complaints about odor to determine if waste was not properly managed. With proper management, odors would be minimal. The naturally occurring bacteria in the soil uses carbon in the waste as a fuel source. This activity results in the breakdown of waste, which includes odors. Usually, odors are only detected at the time and immediate vicinity (within feet) of the land application activity and are controlled by tilling within six hours. Land application could occur daily. Dust caused by tillage activities during the dry season would be reduced by the moisture content of septage.

The Proposed Action would be visible from the main road and resemble agricultural activities occurring in the surrounding area. The pumper truck would access the Site to conduct land application activities. Only one truck would access the Site at a time. Noise from the truck at the Site would resemble noises from agricultural activities currently occurring in the area.

3.2.6 HUMAN HEALTH & SAFETY

No impacts on human health and safety are expected due to the Proposed Action.

Septage would be land applied at the Site. Septage would be incorporated into the soil surface within six hours of application and dust would be controlled. No livestock grazing areas exist on the Site. The Site grows wheat and canola. Crops would not be harvested until 14 months after the most recent septage application, as per ARM 17.50.811(3)(a).

Regarding COVID-19, the Environmental Protection Agency (EPA) expects a properly managed septic system to treat COVID-19 the same way it safely manages other viruses often found in wastewater. The World Health Organization (WHO) has indicated that “there is no evidence to date that COVID-19 virus has been transmitted via sewerage systems, with or without wastewater treatment.” (EPA, 2020)

Access to the Site, via a private drive, is controlled by a fence and gate.

Therefore, no impacts to human health and safety are expected due to the Proposed Action.

3.2.7 INDUSTRIAL, COMMERCIAL, AND AGRICULTURAL ACTIVITIES

No impacts on industrial and commercial activities are expected due to the Proposed Action. Minor positive impacts to agricultural activities are expected due to the Proposed Action.

The Site is zoned as agricultural land and will not accommodate industrial or commercial activities. When land application occurs on an annual rotation (*Section*

2.2.3), crop production can occur and agricultural activities on the Site can continue. Land application of septage would improve soil health.

3.2.8 CULTURAL UNIQUENESS AND DIVERSITY

No impacts to cultural uniqueness and diversity are expected due to the Proposed Action.

The State Historic Preservation Office (SHPO) conducted a resource file search for Section 21, Township 29 North, Range 22 West, which indicated there have been no previously recorded sites within the area. Based upon ground disturbances in this area associated with agricultural activities and residential development in the area, SHPO determined there is a low likelihood that cultural properties would be impacted.

3.2.9 DEMAND FOR GOVERNMENT SERVICES

The impact on demand for government services from the Proposed Action would be minor.

DEQ staff would provide guidance to RFI for septage land application activities at the Site, with assistance from the Flathead County sanitarian as needed. Disposal logs showing volumes of waste applied by RFI at the Site are submitted to DEQ twice a year. Disposal logs would be reviewed by DEQ to ensure the AAR is not exceeded. Periodic inspections are performed by DEQ at all septic tank pumper land application sites. DEQ may obtain periodic soil samples for testing of nutrient levels to ensure compliance with the AAR for the Site.

As Montana's population and seasonal visitation grow, the demand for disposal of septage increases. ***Wastewater treatment plants can accept only limited amounts of septage from pumpers***. When done in compliance with DEQ rules, land application by septic tank pumpers allows for safe disposal of septage without overloading Montana's wastewater treatment plants.

3.2.10 SOCIOECONOMICS

No impacts to socioeconomics are expected due to the Proposed Action.

No additional employees would be hired because of the Proposed Action. Employees currently hired by RFI would conduct necessary operations at the Site.

3.2.11 PROPERTY VALUES

There is a lack of literature or studies on potential impacts from land application sites on surrounding real property values in Montana. Given the lack of analysis proving a direct and statistically significant link that land application sites devalue surrounding property, negative property value impacts from the Proposed Action are difficult to quantify. However, because land application activities resemble existing agricultural and commercial activities in the surrounding area, any negative impacts to adjacent and nearby property values are expected to be minor. Visually, the Proposed Action

would resemble existing agricultural and commercial land uses in the surrounding area. Similarly, as discussed in *Section 3.2.5*, odors are expected to be of limited duration and limited to the immediate area surrounding the land application activities. As discussed in Section *3.2.4.2*, DEQ does not expect the Proposed Action to impact groundwater resources and thus does not expect impacts to groundwater resources to affect adjacent and nearby property values.

3.2.12 TRAFFIC

The impact to traffic from the Proposed Action would be minor.

There would be no significant increase in traffic on West Valley Drive. One pumper truck would access the Site at a time. The Site would be accessed from West Valley Drive via a private drive. West Valley Drive and Clark Drive currently support daily traffic to homes and businesses in the area.

3.3 REGULATORY RESTRICTIONS

MEPA requires state agencies to evaluate regulatory restrictions proposed for imposition on private property rights because of actions by state agencies, including alternatives that reduce, minimize, or eliminate the regulation of private property (Section 75-1-201(1)(b)(iii), MCA). Alternatives and mitigation measures required by federal or state laws and regulations to meet minimum environmental standards, as well as actions proposed by or consented to by the applicant, are not subject to a regulatory restrictions analysis.

No aspect of the alternatives under consideration would restrict the use of private lands or regulate their use beyond the permitting process prescribed by the SDLA. The conditions that would be imposed by DEQ in issuing the license would be designed to ensure conformance of the Proposed Action to the environmental standards required by the SLDA, or to uphold criteria proposed and/or agreed to by RFI during application review. Thus, no further DEQ analysis is required beyond RFI's application review for protection of human health and the environment.

3.4 CUMULATIVE AND SECONDARY IMPACTS

The analysis area for this is one mile around the Site. The Site is currently used to grow wheat and canola and has some areas of grazing pasture grass. The surrounding area consists of rural agricultural activities and residential homes (distanced from the Site). All residential homes are beyond the setbacks outlined in the Administrative Rules of Montana. DEQ is not aware of any other proposed projects in the area.

Cumulative impacts are the collective impacts on the human environment when a specific action is considered in conjunction with other past, present, and future actions by location and type. No cumulative impacts were identified (**Table 3**).

Secondary impacts are those that occur at a different location or later time than the action that triggers the effect. No secondary impacts are expected due to the Proposed Action beyond those described in *Section 3*.

4. FINDINGS

The depth and breadth of the project are typical of a septage land application site. DEQ's analysis of potential impacts from the Proposed Action are sufficient and appropriate for the complexity, environmental sensitivity, degree of uncertainty, and mitigating factors provided by the Septic Rules for each resource considered.

To determine whether preparation of an EIS is necessary, DEQ is required to assess the significance of impacts associated with the Proposed Action. The criteria that DEQ is required to consider in making this determination are set forth in ARM 17.4.608(1)(a) through (g):

(a) The severity, duration, geographic extent, and frequency of occurrence of the impact;

(b) The probability that the impact will occur if the Proposed Action occurs; or conversely, reasonable assurance in keeping with the potential severity of an impact that the impact will not occur;

(c) Growth-inducing or growth-inhibiting aspects of the impact, including the relationship or contribution of the impact to cumulative impacts;

(d) The quantity and quality of each environmental resource or value that would be affected, including the uniqueness and fragility of those resources or values;

(e) The importance to the state and to society of each environmental resource or value that would be affected;

(f) Any precedent that would be set because of an impact of the Proposed Action that would commit DEQ to future actions with significant impacts or a decision in principle about such future actions; and

(g) Potential conflict with local, state, or federal laws, requirements, or formal plans.

The Site's location is described in *Section 1.4* of this Final EA and includes approximately 50 acres of property located approximately 6.35 miles northwest of Kalispell in Flathead County, Montana, south of Clark Drive at 2410 Spring Creek Road. If RFI renews their license and operations comply with the SDLA and its implementing rules, land application activities and DEQ site inspections would continue indefinitely, subject to the maximum annual application rate for the Site. The Site is not within sage grouse core habitat, general habitat, or connectivity area. It has no special agricultural designation. Operations would not adversely affect any threatened or endangered species.

The Proposed Action is expected to improve soil and vegetation at the Site, as described in *Section 3.2.2*.

The Proposed Action is not expected to impact surface water resources. Operational standards ensure that all the setback requirements from surface water are met and that no slopes exceed 6%, as described in *Section 3.2.4.1* of this Final EA.

The Proposed Action is not expected to impact groundwater. Setback requirements for groundwater supply wells would be maintained, as described in *Section 3.2.4.2*. The depth to groundwater is greater than six feet as required. Land application at agronomic rates would ensure that no septage could percolate below the surface treatment zone.

DEQ has not identified any growth-inducing or growth-inhibiting aspects of the Proposed Action. However, access to the parcels on the Site for utilization by human recreation, crops, and livestock would be limited to meet the regulatory restrictions necessary to protect human health (ARM 17.50.811(4) and (5)). Farming for canola and wheat would continue at the Site under these restrictions. Approval of the land application site application would not be a decision regarding, in principle, any future actions that DEQ may perform. Furthermore, approval would not set any precedent or commit DEQ to any future actions.

5. OTHER GROUPS OR AGENCIES CONTACTED OR CONTRIBUTING TO THE EA

Flathead City - County Environmental Health Department
United States Environmental Protection Agency
World Health Organization
United States Department of Agriculture
Montana Natural Heritage Program
Montana Historical Society State Historic Preservation Office
United States Geological Survey
Montana Bureau of Mines and Geology
US Fish & Wildlife Service
Montana Sage Grouse Habitat Conservation Program

6. AUTHORS

Draft EA prepared by:
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Septic Tank Pumper Program

Date: June 27, 2023

7. REFERENCES:

Montana Tech of the University of Montana, Montana Bureau of Mines and Geology (MBMG), Ground Water Information Center http://mbmggwic.mtech.edu/

United States Fish & Wildlife Service, Environmental Conservation Online System, 2023

https://ecos.fws.gov/ecp/report/species-listings-by-current-range-county?fips=30095

Montana Natural Heritage Program, 2022
http://mtnhp.org/default.asp

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http://svc.mt.gov/msl/mtcadastral

Kalispell, Montana Weather Averages Summary
http://www.weatherbase.com/weather/weather.php3?s=97727&cityname=Kalispell-Montana-United-States-of-America

Average Pan Evaporation Data by State
https://wrcc.dri.edu/Climate/comp_table_show.php?stype=pan_evap_avg

Fertilizer Guidelines for Montana Crops, Montana State University, 2005
https://store.msuextension.org/publications/AgandNaturalResources/EB0161.pdf

Administrative Rules of Montana
http://deq.mt.gov/Portals/112/deqadmin/dir/documents/Legal/Chapters/CH50-08.pdf

NRCS National Cooperative Soil Survey for Section 21, Township 29 N, Range 22 W, Flathead County, Montana, 2022
https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

EPA Domestic Septage Regulatory Guidance, 1993
https://www.epa.gov/biosolids/domestic-septage-regulatory-guidance-guide-epa-503-rule

Google Earth, 2023
https://earth.google.com/web/search/48.26730%C2%B0,+-114.40213%C2%B0

8. RESPONSE TO COMMENTS

The comment period on the Draft EA started June 6, 2023. The public comment period ended on June 16, 2023. During the comment period, DEQ received thirteen submissions, two of which were in support of the Proposed Action. Comments covered several topics from the Draft EA. DEQ read, summarized, combined, and considered the substantive elements from the comments. The comments below are organized by and addressed within each theme. The themes are bolded. Commenter comments are shown in italics. Responses from DEQ are below each comment.

ENVIRONMENTAL COMPLIANCE

Comment #1

I understand the necessity of this process but when the company doing the land application has no regards to rules and regulations and nobody tracks his operations it does not make for a good experience.

DEQ verifies land application disposal summary logs twice annually. DEQ inspects land application sites at least annually and may increase frequency as needed. Furthermore, DEQ contacts pumpers who are verified to be over applying. Over-application of septage is verified through the collection of soil samples from the Site. When over-application is confirmed, portions of the Site which have received too much septage wouldn't be utilized until the crop at the Site has used up the excess nitrogen.

Where violations are confirmed, DEQ may institute administrative or civil enforcement proceedings, including up to revoking licensure and ceasing use of the Site.

In the instance referenced by the commenter, DEQ verified that the applicant had over-applied septage. DEQ addressed this overapplication by requiring that operations be relocated from the site to allow for excess nitrogen in the soil to be accommodated. Subsequent soil samples showed that appropriate reduction in nitrogen had occurred on the Site yielded from the crops onsite. Currently, the subject site is no longer an active land application site.

If any compliance issues arise, complaints may be filed with our Enforcement Program at 406-444-0379 or go to Report Pollution | Montana DEQ (mt.gov).

HUMAN HEALTH

Comment #2

Literature shows that even preliminary treatment with lime does NOT totally break down or eliminate pharmaceuticals, (example diclofenac (an NSAID), ibuprofen, carbamazepine for seizures, estradiol, other NSAIDS, narcotics, etc.) or heavy metals. Nor does it eliminate biological hazards such as viruses, antibiotic resistant bacteria, salmonella, protozoa (parasites), helminths (intestinal worms), molds, fungi, and other pathogens.

See *Section 1.2* for narrative regarding septage.

The Environmental Protection Agency (EPA) conducted research outlining the contents of septage (e.g., nutrients, metals, grease, total solids, and biochemical oxygen demand) (EPA Domestic Septage Regulatory Guidance, 1993). That research informed the Administrative Rules of Montana (ARM), 17.50, subchapter 8, regarding land application of septage in Montana, which are protective of human health and the environment.

Septage is relatively universal regarding contents. Some contents, aside from human waste, might include, but aren't limited to household chemicals, water softeners, soaps, and litter (e.g., tampons, toilet paper, etc.).

EPA research on chemicals found in septage is ongoing. DEQ is monitoring these changes and their possible effect on the rules and regulations that pertain to land application of septage.

Comment #3

In all the years the applicant applied on land next to us, not once did we have someone from the state come and take a water sample to ensure it wasn't affecting our water.

DEQ's Septic Tank Pumper Program doesn't require testing of surrounding water. Title 75, Chapter 10, Part 12, Montana Code Annotated, outlines the statutes regarding septage land application, and ARM 17.50, subchapter 8, outlines all state laws regarding septage land application.

Comment #4

Literature from around the world is showing that this method of dumping raw sewage on rural farmlands is a bad idea and fraught with the probability of significant health hazards over time.

See *Section 1.2* regarding the distinction between septage and sewage. As also outlined in *Section 1.2*, "*land application also reduces Montana farmers' reliance on chemical fertilizers to improve soil*".

Land application of septage is common practice across the United States.

WATER (SURFACE WATER AND GROUNDWATER)

Comment #5

Due to prior contamination in this area in part due to the rare and sensitive nature of the aquifer in this area, additional review of the suitability of this particular site is required. Given the unique geological features of this area, prior to issuing of a permit this site should be re-evaluated given this and other issues we raise in our comments.

This comment addresses water samples taken in 2001 showing elevated nitrate readings that were over the state drinking water standard.

See *Sections 3.2.4.1* and *3.2.4.2* regarding specific distances from surface water, groundwater wells, and depth to groundwater from the Site. Due to the nature of this operation contamination of groundwater and surface water is unlikely. The Administrative Rules of

Montana (ARM), 17.50.809, require setbacks that are protective of these resources. The nature of the operation doesn't allow for penetration of the soil below depths that would affect groundwater. Depth to groundwater at a well near the site is 23 feet, which exceeds the six-foot minimum outlined in the rule noted above (ARM 17.50.809 (8)).

Slopes of no more than 6% are permitted for land application ensuring that there would be no runoff from the Site.

Comment #6

This proposed dumped septage puts the West Valley's Lost Creek alluvial fan at great risk for contamination from bacteria still present in the human excrement due in part to existing failing septic systems in Flathead County and beyond. Previous studies and research into gravel mining operations in the area and their proposed asphalt batch plants beginning in 2006 revealed striking conclusions regarding nitrate contamination in the Lost Creek Alluvial Fan.

See response for **Comment #5**. The impacts of a gravel pit with an asphalt plant are much different than that of a septage land application site. The referenced document speaks to gravel mining and asphalt plants which require more invasive construction and operations than land application of septage, which doesn't require any earthmoving activities to implement.

The rules (ARM 17.50, subchapter 8) set forth for land application of septage are protective of these resources, including surface water and groundwater, which would include any potential contamination of the Lost Creek alluvial fan. Review **Table 2** in the Final EA at it outlines all setbacks regarding land application of septage.

Comment #6

The EA should disclose rate of drawdown created by area wells and that potential impact on percolation of septage below the treatment zone.

Land application of septage typically occurs in the hottest months of the year. During that time, evaporation is more prevalent. Further, disposal of septage doesn't happen in one specific location. Spreading equipment on the vehicle disperses septage. Additionally, disposal typically entails the truck driving along while the septage is being dispersed to alleviate any ponding or localizing of the septage to one area on a land application site. These operations further prevent the percolation of septage.

ODOR

Comment #7

Despite odor control measures such as frequent plowing, the smell cannot be controlled completely. Being at this location will impose that on many family homes regardless of wind direction, while the profit for the use of the land only goes to the landowner.

Please see Section 3.2.5 for narrative regarding odor.

DEQ's compliance inspectors conduct inspections and take soil samples from septage land application sites.

OTHER

Comment #8

The EA does not disclose the location of other permitted sites for land application of septic waste in the area.

The cumulative impacts analysis area is one mile around the Site. Within one mile of the Site, there are three other septage land application sites. However, due to the nature of this operation and others like it, no cumulative effects were noted, which is why the other sites were not originally disclosed in the Draft EA.

Comment #9

The EA should disclose and consider the potential impacts to the rate of draw down created by area wells and their potential impact on the vertical percolation of septage below the soil treatment zone as well as possible unique impacts in areas underlain by the Lost Creek Fan.

The Administrative Rules of Montana establish protective setbacks for land application of septage. Nutrients applied to the land are taken up by the crops that are planted and grow on the Site. Land application of septage typically occurs in the hottest months of the year where evaporation rates are highest. Percolation of septage into the soil would be further minimized by spreader bars on the pumper truck that disperse the septage and spread it in thinner layers on the soil, which further increases evaporation rates.

Comment #10

This EA should consider, as a reasonable alternative, working with adjoining property owners to establish baseline well monitoring prior to the permitting and use of this site and on a reasonable regular repeating cycle.

Currently, there are no requirements in the Administrative Rules of Montana or Montana Code Annotated for baseline well monitoring for these type of projects. The Septic Tank Pumper Program does have a Septage Land Application Monitoring (SLAM) Program where the Septic Tank Pumper Program scientists test the soils at these sites to verify the annual application rates are not being exceeded.

Septage constituent concentrations (e.g., nutrients, metals, grease, total solids, and biochemical oxygen demand) were initially characterized by EPA when the Code of Federal Regulations (CFR), 40 CFR Part 503, were implemented (EPA Domestic Septage Regulatory Guidance, 1993). Successive sampling by EPA and other state environmental protection agencies have produced similar results. The Septic Tank Pumper Program has jurisdiction over compliance regarding land application of septage in Montana. EPA research and guidance has informed the Administrative Rules of Montana regarding septage land application.

Comment #11

Flathead County is actively working to secure a solution and alternative to land application of septic waste to better protect water quality and the health and safety of Flathead residents. The EA does not address this potential and should.

DEQ acknowledges Flathead County's efforts to secure an alternative solution for septage management. Because this alternative isn't currently established in Flathead County, DEQ cannot analyze this alternative. Once this alternative is in place, it could reduce the reliance of land application as the main method of septage disposal in Flathead County.

Comment #12

You also state that it wouldn't adversely affect property values. Without such research, the DEQ is intentionally disregarding surrounding landowners' rights to preserve the value of their properties from being harmed by outside influences beyond their control.

See *Section 3.2.11* regarding property values. Given the resemblance of septage land application to present agricultural operations in the area, DEQ expects any impacts to property values and aesthetics to be minor. Currently, chemical fertilizers are used to cultivate crops. The change to septage land application as a fertilizers alleviates the needs for chemical fertilizers to continue on the Site for crop production.

Comment #13

Historically, proposals in 2010 and 2020 to add an asphalt batch plant to two separate existing gravel pits in the West Valley were both denied by the Flathead County Board of Adjustment due to the risk of water aquifer contamination, noise, stench, and the potential plunge in property values.

See the response to **Comment #1**.

Comment #14

Septage disposal could be potential destruction for the West Valley bird habitat.

Since agricultural operations currently occur on the Site, it is unlikely that this activity would further disturb any habitat beyond what has already been disturbed by normal agricultural operations. No wetlands would be disturbed or affected because of the Proposed Action.

Comment #15

Please deny this request in the interest of the many residents nearby.

DEQ does not have the authority to not permit an action that fully complies with the law. The Proposed Action meets all minimum requirements set forth by the Administrative Rules of Montana, therefore DEQ is obligated to permit the Proposed Action and oversee compliance.

SUPPORT

Comment #16

I am in strong support of granting this project as Ready Freddy is extremely professional and very clean in his operations. There is a dire need for septic tank pumpers in Flathead Valley and the county continues to issue more septic tank permits despite the growing issue in Flathead County.

Thank you for your comment.

Comment #17

I live near his current site and the proposed site. I have been in the agricultural business for 50 years and I think this operation will enhance the availability of maintained septic tanks, and do not believe this will degrade the community.

Thank you for your comment.

Comment #18

I strongly recommend the approval of this project. This is a good practice proven over many years which is low cost and yields agricultural benefits. This will meet a need that exists in the Flathead Valley without increased costs to taxpayers.

Thank you for your comment.